

**Information Systems Development Support (ISDS) Contract  
Contract Work Order (CWO) Implementation Plan**

for

**CWO 01  
DSN Multi-use Software (MSW)  
DSN TCP/IP Data Transfer  
for  
Deep Space Communications Complexes (DSCC)**

Developed by  
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for the

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# MSW TCP/IP Data Transfer for Deep Space Communications Complexes (DSCC) - CWO1

## Table of Contents

### Foreword

This is the top-level CWO document used for defining and controlling the effort, organizational structure, management authority and responsibility, and resource allocations for the CWO. This is the baseline DSN Multi-use Software (MSW) DSN TCP/IP Data Transfer for Deep Space Communications Complexes (DSCC) CWO technical and management document developed under the guidelines set forth in DRD MA005 and in the ISDS Program Management Plan and supported by the ISDS methodology.

The **order of precedence** is the ISDS contract and attachments, then the ISDS Project Management Plan and its supporting procedures, and then this plan. The ISDS Project Management Plan and supporting procedures can be explicitly waived with the concurrence of JPL and ISDS team management. Such actions and decisions are documented in Section 11, Deviations, Exceptions, and Waivers.

## 1. Introduction

### 1.1 Background

See Section 2.1 SOW.

### 1.2 Purpose

The purpose of CWO 01 is to provide the NS software for multiple systems.

### 1.3 Goals

JPL wants to achieve a more reliable method of data transfer within the DSN. In addition, the use of a "standard" foundation moves DSN in the direction of an 'open system'.

## 2. SOW & Deliverables

### 2.1 SOW

#### Background

This SOW extends DSN multi-Use software (MSW), and is to provide reliable data transmission, using TCP/IP, for digital communications via the DSCC LANs.

The DSN Multi-Use Software consists of two sets of programs, Common Software (CSW) and Shared Software (SSW), which provide functions and protocols used by subsystems within the DSCC.

Common Software (CSW) provides

- LAN Communications (890-131) Protocol

- Buffer and Queue Management (inter-task communications)

- TCT Time Code

- Monitor & Control Protocols (890-132) for Operator Directives and Responses, Monitor Data, Support Data, Display Requests and Responses and Event notices

- Other services

Shared Software (SSW) is a layer on top of CSW for an application to build upon that provides

- Local Terminal Control

- Automated Tester

- Display Generation,

- Additional Operator Directives and Monitor Data processing

- Other functions.

#### Guidelines, Constraints, & Assumptions

For each step of the CWO, all existing SPC transport and Network Protocol (STP) or Functional Independent Data Module (FIDM) (890-131) capabilities shall be maintained.

Use 890-131 FAT (Functional Address Translation) Table to support TCP/IP Domain Name Service (NS) for determining IP destination addresses. CMC Configuration Table Change with no CMC redelivery is required.

GFE - MSW and related documentation, COTS-TCP/IP for DSCC Platforms.

Maximize use of DSN Information System Engineering (ISE) Lab. (TCA and SCP Platforms) TCP/IP and functional addressing studies results.

#### Work to be performed

Make modifications to MSW which have a high payoff in improved reliable Data Delivery Using TCP/IP.

Specifically, this CWO will provide Multi-Use Software (MSW) including TCP/IP for four DSCC Platforms

- REAL/IX 88K

- PDOS

- OS/9

- REAL/IX 68K

and the following subsystems will be delivered with MSW included:

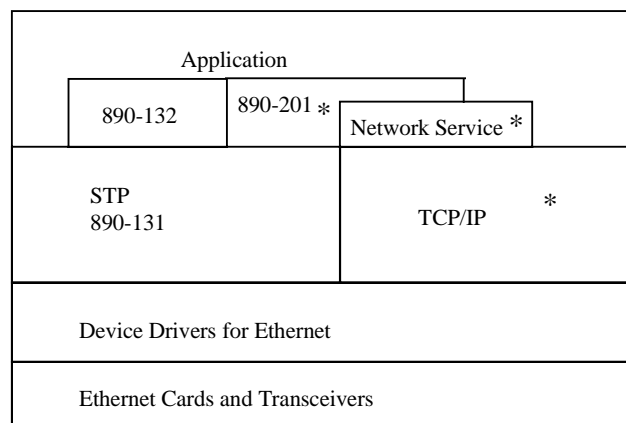
1. SCP (High Rate and SPC LANs)

2. TCA (High Rate LAN)

3. MDA (SPC LAN)
4. HRSPT (High Rate and SPC LANs)

Data flow Support is shown in Figure 1 with the affected components designated with an asterisk.

**Figure 1 - DSCC Subsystem Protocol with MSW-TCP/IP**



#### Flow Paths

Due to the transition required, the following data flow paths shall be supported:

1. Application level <--> STP(890-131) <--> LAN
2. Application level <--> 890-132 <--> STP(890-131) <--> LAN
3. Application level <--> 890-201 <--> STP(890-131) <--> LAN
4. Application level <--> 890-201 <--> NS  
<--> TCP/IP <--> LAN
5. Application level <--> NS  
<--> TCP/IP <--> LAN
6. Application level <--> TCP/IP <--> LAN

#### Scope of Work - Individual Activities

See Figure 1 for the interrelationship of these activities

1. Modify 890-201 (See Figure 1 - DSCC Subsystem Protocol with MSW-TCP/IP)

- Interface with application software and Network Service (NS) software
2. Develop Network Service (NS) Software
    - For data flow path 4, use FAT table to translate 890-131 process code to IP address
    - For data flow path 5, use TCP/IP domain name service to find IP address
    - Manage MSW and TCP/IP connection
  3. Integrate TCP/IP, Network Service (NS) Software, and new 890-201 or MSW on the following platforms
    - REAL/IX 88K
    - REALIX 68K
    - PDOS
    - OS/9
  4. Install MSW-TCP/IP to the following subsystems and support the Subsystems for FY 95 delivery
    - SCP (Modcomp REAL/IX 88K and Modcomp REALIX 68K)
    - TCA (PDOS)
    - MDA (Modcomp REALIX 68K)
    - HRSPT (OS/9)
  5. Update software documentation including Software Operator's Manual and Training Materials
  6. <sup>1</sup>Monitor Data Flow Network Services

#### Implementation Schedule

See Section 8.1

## **2.2 Deliverables**

We enumerate all CWO deliverables to assure that both JPL and the ISDS team know what is to be produced.

### **2.2.1 CWO Specific Deliverables**

1. SCP software

<sup>1</sup> Chaw Hung considers this activity an integral part of other deliveries. Is this an increase in work scope?

2. TCA software
3. MDA software
4. HRSPT software
5. MPA software
6. TGC software
7. CPA software
8. Preliminary documentation updates for
  - SOM
  - Training materials
9. Final documentation updates for
  - SOM
  - Training materials

### 2.2.2 Deliverables Required by Contract or Derived from the CWO

1. MA005 - CWO Implementation Plan, draft, final, and updates as required
2. MA006 - Monthly Progress Report
3. MA007 - CWO Weekly Status and Major Problems Report

## 3. Software Development Plan

CWO 1 is a continuation of work already in progress at ISDS startup. Therefore, the development plan and technical approach are derived from the ongoing work.

### 3.1 Technical Approach

This section contains our technical approach for all phases the CWO. Part of our implementation approach is derived from our analysis of the CWO's risk items and our approach to mitigating them as documented in the Risk Management Plan. The technical aspects of the life cycle phases are discussed in the following sections:

#### 3.1.1 Recapitulation of Requirements

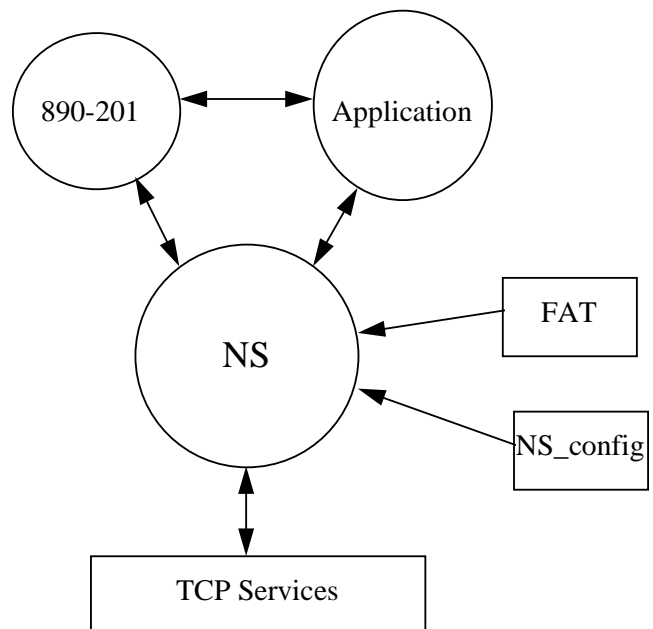
Because an FRD already exists, this section is not needed.

#### 3.1.2 System Operations Concept

As shown in Figure 1, NS software supplies an interface between applications and TCP services. However, The application can interface either directly to NS or through 890-201 to NS. NS operation is controlled by the NS\_config file and the FAT, file access table.

To keep the software simple, communication is always simplex across TCP provided services and the destination always go to the same TCP port.

**Figure 2 - NS Software configuration**



#### 3.1.3 Level of Application of the Methodology

The methodology has already been chosen.

#### 3.1.4 Overall Approach

Our overall approach is to develop and test the software on one platform (SUN Solaris because it is the friendliest software environment) and then port the software to the other (less friendly) environments.

The following subsections describe the five phases of the software development life cycle with respect to the CWO and discuss the most important technical aspects of each life-cycle phase. Because the first three activities are either complete or are currently underway, there is no discussing of these topics.

#### 3.1.4.1 Requirements Definition and Analysis

#### 3.1.4.2 Architectural Design

#### 3.1.4.3 Software Implementation

#### 3.1.4.4 Software Integration and Test

#### 3.1.4.5 Installation and Training

There are no special Installation and Training considerations for CWO 01

#### 3.1.4.6 Maintenance and Sustaining Engineering

For each major component of CWO 1, there is post delivery maintenance and user support required. The requirement is to support the early release(s) while the later releases are being developed. The later releases will require support until the end of the CWO.

Our approach for this effort is based on two activities. The first is responding to requests for assistance in a timely manner. The goal of this response is to either resolve the problem or to characterize it in a short period of time. If the problem cannot be resolved, we will record it so that resources can be assigned to it consistent with all other priorities of work. The second is examining written (machine readable) records; e.g., outstanding ARs, ISDS problems, and requested changes to first decide the contents of the next maintenance release and then to plan and size the effort for the selected problem fixes and changes.

## 3.2 Integration & Build Approach

This section describes our overall approach for integrating software components into releases,

testing release functionality, and demonstrating operability to JPL through acceptance testing.

### 3.2.1 Responsibility

Larry Babb, the CWO manager, is responsible for planning and coordinating overall testing and integration activities. However, most of the details will be left to persons assigned to CWO, Mike Dern and Vincent Hung.

### 3.2.2 Integration & Test Activities

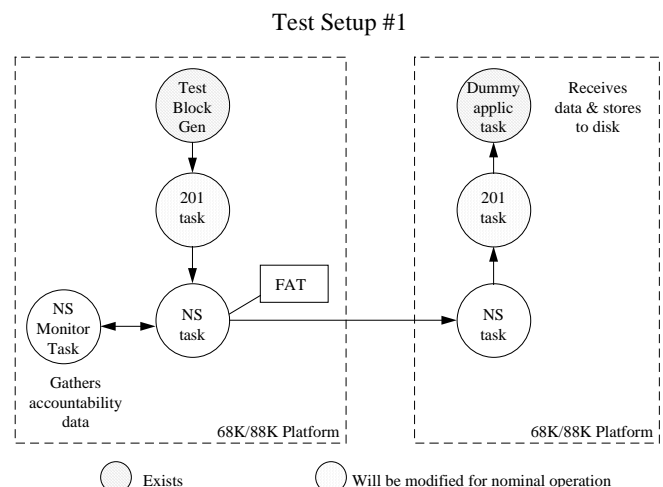
*Describe how the integration will occur*

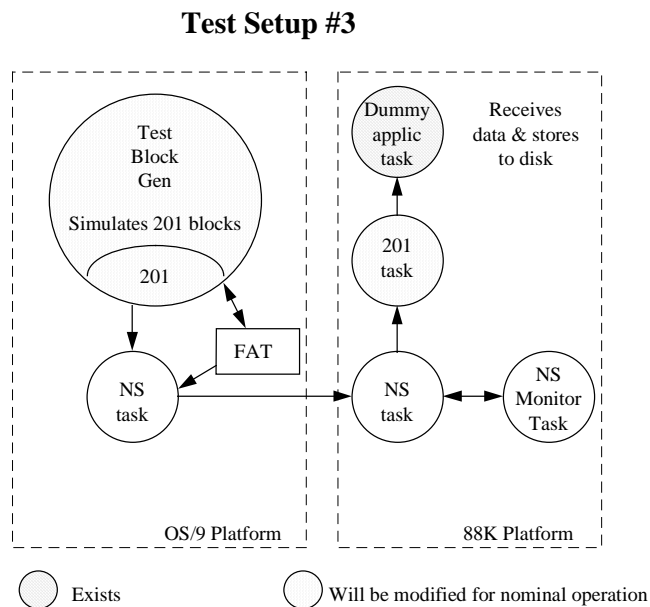
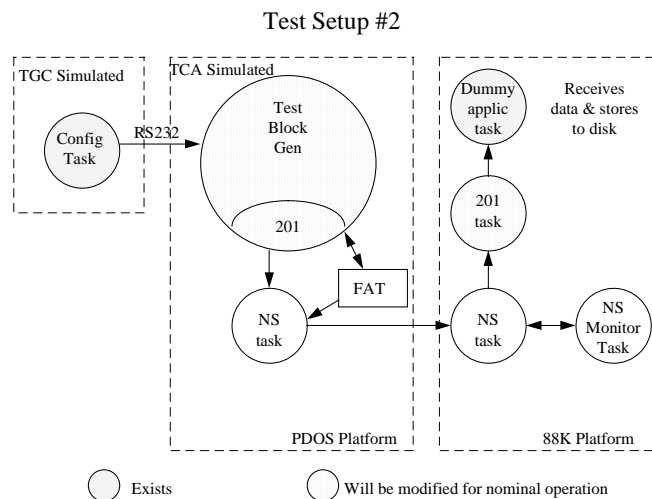
#### 3.2.2.1 Integration Approach

TBD

#### 3.2.2.2 Test Approach

The following figures show the major test approaches. Each will be expanded into a longer description in a Test Plan notebook.





### 3.3 Resources Required

GFE/GFI resources are described in Section 9

#### 3.3.1 Development Tools & Resources

TBD

#### 3.3.2 Integration & Test Resources

TBD

### 3.4 Process Assurance Plan

It is ISDS policy to combine Process Assurance as the combination of Configuration Management, (CM) Quality Assurance (QA), and Process Management into Process Assurance. Each of the subactivities is intrinsically tied to and dependent on the others for success.

#### 3.4.1 Configuration Management Plan

##### 3.4.1.1 Introduction

The CM plan for this CWO is derived from and consistent with the ISDS Project CM Plan. This section is laid out in accordance with CSC SSDM Standard 6107.

##### 3.4.1.2 Organization & Responsibilities

The ISDS PAO, is the configuration management officer (CMO). The PAO reports to management independent of the Program Manager and CWOs. The CMO performs configuration management and data activities as outlined in this CM Plan.

The Configuration Control Board (CCB) for this CWO consists of XXXX (representing both the ISDS PAO and CMO), the CWO Task Manager, the ISDS Program Manager and the JPL CWO Manager, at a minimum..

##### 3.4.1.3 Configuration Identification

###### 3.4.1.3.1 CI Definition

See table 3.4.1.3.1-1

**Table 3.4.1.3.1-1 CWO Configuration Items**

Title or Description	Versions	Notes
CWO Implementation Plan	Draft, Revised, Final	Refer to ISDS CDRL MA 005; includes plans for Software Development, Development Review, Software QA, CM, Integration and Test, Software Progress Metrics, Staffing & Profile, and Cost & Schedule, at a minimum

CWO Weekly Status and Major Problem Report	One/Week	Administrative data including updates to CWO status and schedule
Design Documentation	Preliminary, Detailed, Final	Includes design specifications which define the Development and Product Baselines
Source code/libraries	Internally Configured, Baselined	Source code following peer review approval and QA inspection/certification controlled by 'gatekeeper'; updated for Product Baseline
Executables	Internally Configured, Baselined	Object representation of source code following peer review approval and QA inspection/certification controlled by 'gatekeeper'; updated for Product Baseline
Build Procedures	Draft, Final	Procedures defining software release approach
Test Plans/Procedures and Reports	Draft, Final	Includes test data for CIs, the system, acceptance, and operation
Training Materials	Draft, Final	Generated following completion of Operational Baseline
User Documentation	Draft, Final	Generated as part of Product Baseline
Operational Baseline/Version Deliverables	Baselined, Updates	Consists of documentation updates to the Functional, Allocated and Product Baselines, and approved acceptance and operational test documentation
Discrepancy/Change Request Forms/Modifications and Repairs	As Required	This includes ECRs, SCNs, DWRs, ECOs and System Problem Reports (SPRs)

#### 3.4.1.3.2 Baselines

Baselines are identified in the previous table. ISDS may choose to internally baseline software or documents even when there is no formal delivery to a JPL organization; e.g., SPMC. We do this to control change to volatile or risky areas of CWOs.

#### **3.4.1.4 Configuration Control**

##### 3.4.1.4.1 Change Classification

ISDS is compatible with JPL change classification except in two areas:

1. We may classify changes for internal baselines differently than JPL would classify the changes.
2. We typically differentiate between problem fixes (e.g., ARs) and changes of enhancements.

##### 3.4.1.4.2 Change Control Procedures

Change control for this CWO is fully compliant with the change control procedures in the ISDS CM Plan. Mention must be made of several key points:

1. A problem fix, once authorized, is its own authorizing document.
2. An enhancement or change to a baseline typically undergoes a multi-step (and incremental) approval process.
  - Approval to generate the specification and estimate for the change
  - Approval to implement the change based on an approved specification and estimate.
3. A detailed estimate includes all code units and whether they are new, modified, adapted, or converted; all document sections; all training materials; all test scenarios; and all tools.

##### 3.4.1.4.3 Change Implementation and Verification

**TBD**



#### 3.4.1.4.4 Software Library Control

Formal software control of deployed software is through SPMC. Internal software is controlled by having a separate account on the development machine running SCCS.

#### 3.4.1.4.5 Software Support Environment Control

N/A

#### **3.4.1.5 Configuration Status Accounting**

**TBD**

#### **3.4.1.6 Configuration Audits**

**TBD**

#### **3.4.1.7 Data Management**

**TBD**

#### **3.4.1.8 Configuration Management Tools**

SCCS  
interfaces to SPMC

#### **3.4.1.9 Records Collection and Retention**

**TBD**

### **3.4.2 Software Quality Assurance Plan**

The QA Plan for this CWO is derived from and consistent with the ISDS Program QA Plan.

#### **3.4.2.1 Scope**

All delivered products are subjected to QA.

All products and tools used to generate internal baselines are subject to QA.

#### **3.4.2.2 Evaluation of Products**

All software units, documentation, tests are subjected to multi-stage, in process review.

#### **3.4.2.3 Verification of Processes**

Periodically, the CWO manager and PAO will check CWO adherence to established processes and 'best practices'.

#### **3.4.2.4 Course Correction**

QA is responsible for determining when problems are not being resolved to the customer's satisfac-

tion and reporting this to the CWO manager and program manager.

### **3.4.2.5 Productivity and Quality Goals**

**TBD**

### **3.4.3 Review Plan**

#### **3.4.3.1 Timing and Location of the Reviews**

Formal reviews will be held at the IDI ISDS facility or at the JPL facility.

#### **3.4.3.2 Notification, Agenda and Attendees**

The CWO manager, Larry Babb, will be responsible for notifying JPL in advance of a proposed internal review and providing an agenda and list of proposed attendees.

#### **3.4.3.3 Minutes and Action Items**

The PAO is responsible for keeping minutes and action items, for posting them in the CWO database, and for routing them to the responsible parties. The responsible parties will return the proposed resolution to Larry Babb for review and approval.

Larry Babb will provide a draft set of minutes and action items within one week of the review and will continue to report the status of action items on a weekly basis to his JPL counterpart until all action items have been resolved.

### **3.4.4 Documents**

#### **3.4.4.1 Installation & Training Plans - not req'd - See 3.1.4.5**

#### **3.4.4.2 Maintenance and Sustaining Engineering Plan - not req'd - See 3.1.4.6**

## **4. Management Approach**

The management approach for this CWO is derived from and is consistent with the ISDS Program Management Plan. CWO specific items are limited to the WBS and the details of the CWO.

## **4.1 Subcontractors**

- Computer Sciences Corp (CSC) -- Infotec Development Incorporated (IDI) and Computer Sciences Corporation (CSC) have formed a 'virtual corporation' to prosecute the ISDS contract. This 'virtual corporation' means there are common processes, intermingled staff, and hidden company identity for ISDS staff.
- Affiliates/Consultants -- There are no other affiliates or consultants.

## **4.2 CWO Change Management**

Change management for this CWO follows the process defined in the ISDS Program Management Plan and in the contract. Should changes be required, they would be documented in this section.

### **4.2.1 Directed Changes**

None at this time.

### **4.2.2 Claims for Adjustment**

None at this time.

### **4.2.3 Anticipated Changes**

Our expectation is that these are currently limited to schedule changes, priority adjustment, and changing of build contents and that all of these are nominally within the scope of work and estimate for CWO 1.

## **4.3 Tracking the Work**

The ISDS team's approach to measure software development effort is based on "earned value". "Earned value" for this CWO is discussed in detail in Section nnnn.

### **4.3.1 Technical Performance Measurement**

TBD

### **4.3.2 Earned Value Measurement Methods**

TBD

## **4.3.3 Cost and Schedule Performance**

## **4.4 Refine Estimates**

We refine our estimates in two ways. First, earned value techniques allow us to reflect experience (for better or for worse) in one task phase into a subsequent phase. Second, cost and schedule estimation is an agenda item at each major review to make the estimates and their assumptions visible to both JPL and ISDS team, a "no surprises" approach to CWO management.

## **4.5 Software Progress Metrics Plan**

The software progress metrics plan to Manage the CWO and to improve our processes is that describe in the project metrics plan with the following exceptions:

## **5. Risk Management Plan**

Risks specific to this CWO are presented in the following two tables. The first, Table 5-1, enumerates the high level risks associated with this CWO and with most CWOs.. The second, Table 5-2, enumerates the risks, impact, and the technical and managerial mitigation strategies for this CWO if the assumptions made in Section 1.3 do not hold.

In a table or in a list. For each risk show Risk Description, Affected Project Areas, Risk Tracking Method, Risk Mitigation, Decision Milestones, Risk Bounds.

**Table 5-1 - High Level Risks for the CWO and How the ISDS Team Significantly Mitigates their impact on JPL**

Type	Factor	CWO
known	CWO terms & conditions	Schedule
		Acceptance Criteria JPL review & approval
	Assumptions	Skill mix, Productivity Software sizing
		Staff availability
		Technical Assumptions
potential	Commitments	GFE availability and quality

	Technical / Management	Estimates & assumptions Later expansion and elaboration of requirements
		Interpretation of requirements & specifications
		Availability of key personnel
	New technology	Adaptation required Availability Training required
	Knowledge loss at end	Inability to respond to problems or change requests
Unknown	--	Changing funding & priorities Changing requirements
		Key personnel attrition

**Table 5-2 CWO Requirements Risks, Impact, and Mitigation Strategies**

CWO Assumption does not hold and ..	Impact if Risk Realized	Mitigation

## 6. Work Breakdown Structure (WBS)

The following table contains the standard ISDS WBS for CWO 1. Bold face text is drawn directly from the SOW.

WBS	Description of Work
11	CWO mgnt, planning, reporting, estimating
15	Data management: Final document & software packaging for SPMC
31	<b>1 Modify 890-201 Interface with application software and Network Service software</b>
312	Software analysis & design & design doc't
313	Implementation, unit test, developer integration & user doc't
314	Post delivery maintenance support
32	<b>2 Develop Network Service (NS) Software for data flow path 4 and 5 and manage MSW and TCP/IP connection</b>
322	Software analysis & design & design doc't
323	Implementation, unit test, developer integration & user doc't
324	Post delivery maintenance support
33	<b>3 Integrate TCP/IP, Network Service (NS) Software, and new 890-201 or MSW</b>
332	Software analysis & design & design doc't
333	Implementation, unit test, developer integration & user doc't
334	Post delivery maintenance support

34	<b>4 Install MSW-TCP/IP and support them for FY 95 delivery</b>
342	Software analysis & design & design doc't
343	Implementation, unit test, developer integration & user doc't
344	Post delivery maintenance support
381	Program support library
383	Final document packaging, editing, publication prep for <b>5 Update software documentation</b>
743	System Installation & checkout for <b>3 Integrate TCP/IP, Network Service (NS) ...</b>
744	System Installation & checkout for <b>4 Install MSW-TCP/IP and support ...</b>
84	Training preparation: audience identification & assessment, syllabus generation, creating lessons & training materials <b>5 Update training materials</b>

## 7. CWO Organization and Staffing

This section of the CWO Implementation Plan shows our staff and schedule estimates and describes the processes used to create and refine them. Figure xxx shows the CWO implementation schedule against the WBS.

## 7.1 CWO Staff Names, Qualifications, & Availability

Mike Dern is the key person on this CWO. He has extensive experience working in this area. He is available at least half time for this CWO.

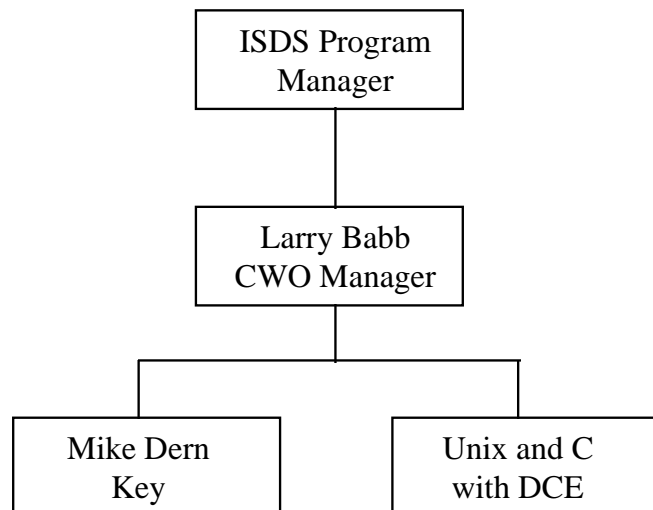
A mix of ISDS staff persons will fill the one additional staff position behind Mike Dern.

Larry Babb is the CWO manager.

## 7.2 CWO Organization

Figure 7.2.1 shows the CWO task organization.

### 7.2.1 CWO in the ISDS Project Organization



### 7.2.2 CWO in the JPL Organization

CWO 1 reports to Chaw Hung of Data Systems Engineering in Section 394

## 7.3 Staffing Profile

CWO 1 is planned as **flat staffing** over the duration of the CWO.

## 7.4 Estimation Approach

Each of the work segments is estimated based on data drawn from other environments and from the experience of persons with Domain knowledge.

### 7.4.1 Size Estimation

Size estimation is based on identifying all units (e.g., subroutines, functions, packages, interface descriptions, test scenarios, tools) which have to be created or altered (e.g., a little or a lot). Unit counts are converted into Delivered Source Instructions (DSIs) and applied to a COCOMO based estimating model.

### 7.4.2 Underlying Assumptions for the Sizing Estimate

**TBD** .

Section 5, Risk Management, describes the effects on the estimates should these assumptions not hold..

### 7.4.3 Overall Staff Profile and Schedule

Figure nnn shows the CWO schedule. Describe the salient points of figure nnn. This is probably linked in from another application.

### 7.4.4 Maintenance (Sustaining Engineering) Effort

There is a maintenance effort between deliveries and after the final delivery.

There will be between xK and yK lines of code to maintain at each delivery. Using a (JPL defensible) number of **TBD** Source Lines of Code (SLOC) per staff year and not having a significant requirement change, between nn and mm staff years per year are required for ongoing maintenance.

We can expect this level between the first and second deliveries and after the second delivery.

### 7.4.5 Smooth the Schedule and Staff Profile

We have a **flat staffing** profile.

### 7.4.6 Apply the Staffing to the WBS

Refer to section 6 for the WBS. We have not allocated staffing to the WBS elements because we do not yet have any JPL history. Our standard assumption is that WBS element 11 will be ap-

proximately 10% of the hours spent on all other WBS elements.

## 8. CWO Schedule and Dependencies

### 8.1 Schedule

Implementation Schedule from the CWO

1. Perform implementation of MSW - TCP/IP (01 May 95)
  - 1.1 Modify 890-201 (01 Apr 95)
  - 1.2 Develop Network Service (NS) Module (01 Apr 95)
  - 1.3 Integrate TCP/IP, NS, and new 890-201 of MSW on REAL/IX 88K platform (01 May 95)
  - 1.4 Integrate TCP/IP, NS, and new 890-201 of MSW on REAL/IX 68K platform (01 May 95)
  - 1.5 Integrate TCP/IP, NS,, and new 890-201 of MSW on PDOS platform (01 May 95)
  - 1.6 Integrate TCP/IP, NS, and new 890-201 of MSW on OS/9 platform (01 May 95)
2. Install MSW TCP/IP to DSCC subsystems (All subitems complete on 01 Jun 95)
  - 2.1 Install MSW TCP/IP to SCP
  - 2.2 Install MSW TCP/IP to TCA
  - 2.3 Install MSW TCP/IP to MDA
  - 2.4 Install MSW TCP/IP to HRSPT
3. Update software documentation including SOM and training materials (Preliminary: 01 Jun 95, Final: 15 Sep 95)
4. Subsystem FY 95 Delivery<sup>1</sup>
  - 4.1 SCP delivery (30 Sep 95)
  - 4.2 TCA delivery (15 Aug 95)

<sup>1</sup> M4SW TCP/IP for REAL/IX 68K platform is available at SPMC 5/1/94 for MPA, TGC, CPA usage. MSW team will support CDEs as needed.

- 4.3 MDA delivery (15 Aug95)
- 4.4 HRSPT delivery (15 Aug 95)
- 4.5 MPA delivery (30 Jul 95)
- 4.6TGC delivery (15 Aug 95)
- 4.7 CPA delivery (15 Aug 95)

5. Monitor data flow network services (when?)

### 8.2 Dependencies

Dependencies are those items outside the control of the CWO manager. We identify them here so we can plan for and manage them. Critical dependencies, if any, are included in the Risk Management Plan. There are some dependencies on this CWO. They are:

- Mission constraints: None, but there are strong schedule constraints in that the completion of CWO 1 is a predecessor to a number of other activities and to the work of other CWO.
- JPL facilities: **TBD**
- JPL support: This is for items for which they are critically responsible
- User availability: Developers must be available for training to build or rebuild applications using this software.
- Site personnel: No
- GFE/GFI:
  1. Availability of computer resources and software within planned schedule.

## 9. GFE/GFI Items

**TBD**

## 10. Close-out Plan

This section will be supplied as an update within 30 days for the end of this CWO.

## **11. Deviations, Waivers, & Exceptions**

This section of the CWO Implementation Plan will contain only deviations known at the time of the plan. The list and details of the deviations and

exceptions and their waiver status is maintained in the problems data base and reflected in applicable CWO documents (e.g., Software Specification) as applicable.

This CWO has no deviations to established standards and procedures.